REMARKS/ARGUMENTS

After entry of the foregoing claim amendments, claims 1-5, 7, 8, 11, 13-14, 18, 20-32, 34, 36-47 and 49-54 will be pending and under consideration in this application.

No new matter is being presented, and approval and entry of the amended claims are respectfully requested.

Claim Rejections – 35 USC § 103

Claims 1-5, 7-8, 14-18, 20-22, 26-32, 34, 41-47, 49 and 51-52 were rejected under 35 U.S.C § 103(a) as being unpatentable over Tang (U.S. Patent No. 6,598,203) in view of Meyer (U.S. Patent No. 4,750,167). Claims 12, 24, 36-39, 50, 53 were rejected under 35 U.S.C § 103(a) as being unpatentable over Tang and Meyer in view of Chen, et al. (U.S. Patent No. 6,052,812, hereafter "Chen"). Claims 11, 13, 23, 25, 40 and 54 were rejected under 35 U.S.C § 103(a) as being unpatentable over Tang, Meyer, Chen in view of Naden, et al. (U.S. Patent No. 6,560,206, hereafter "Naden"). These rejections are respectfully traversed and reconsideration is requested. The following is a comparison between embodiments of the present invention as claimed and the applied references.

Certain embodiments of the present invention, as recited in amended independent claim 1, for example, include an encoding method for reducing decoding complexity, in which the method comprises the steps of encoding systematic bits of a bits stream in each of a plurality of buffers with a first code, and multiplexing content of the plurality of buffers. The steps also include encoding the multiplexed content with a second code to provide a set of frames. The encoding of the multiplexed content comprises identifying a block of bits to be encoded and encoding the block of bits with the second code.

In rejecting the independent claims based upon a combination of Tang and Meyer, the Examiner has taken a building block approach to simply pick and choose components from various references, employing the claim as a blue print to assemble these components. The Examiner has relied upon Tang for the steps of encoding systematic bits of a bit stream in each of a plurality of buffers with the first code, and multiplexing the content of the plurality of buffers. For the step of encoding the multiplexed content with the second code to provide a second set of frames, the Examiner has relied upon Meyer. However, it is respectfully submitted that the combination of references does not establish a prima facie case of obviousness over

claim 1, or any of the other independent claims. Tang describes the use of a Reed-Solomon encoder 102 provided within an encoder 44. It is clearly stated at column 5, lines 30-31, however, the encoder 44 encodes the data for both an outer code and an inner code. Hence, the outer coding and inner coding are both performed prior to the multiplexing performed by multiplexer 136. Since the outer coding and inner coding are both performed prior to the multiplexing, there would be no reason for one of skill in the art to modify Tang to add further complexity and a third level of encoding following the multiplexer 136. Yet, this is exactly what the Examiner has proposed with the hypothetical combination of Meyer and Tang.

Meyer shows two channels that carry analog signals that are converted to a digital signal, with a timed division multiplexing performed. Following the multiplexing into a common carrier frame, an encoding and framing is then performed. There is no encoding of the systematic bits of a bit stream with the first code, as Meyer operates on two different channels, rather than a single bit stream prior to the multiplexing of the two channel signals. Further, it is submitted that one of ordinary skill in the art would not have a reason to combine Meyer with Tang to perform a third level of encoding following the multiplexing.

In each of independent claims 14, 26 and 41, a multiplexer is provided that receives encoded bits from a bit stream. Further encoding of the multiplexed content is then provided. As discussed above with respect to claim 1, the combination of Tang and Meyer does not show or suggest such an arrangement. There is no substantial reason for providing a third encoding by the simple addition of another encoder from Meyer after the multiplexer of Tang. This is because the encoder of Tang already is stated to perform outer and inner coding prior to the multiplexer. Accordingly, the rejection of claims 14, 26 and 41 should also be reconsidered and withdrawn for similar reasons as given above with respect to claim 1. It is noted that independent claim 36 was rejected based upon a combination of Tang, Meyer and Chen. However, Chen was cited to disclose the providing of an indication of an erasure to a second decoder. Chen does not overcome any of the deficiencies noted above with respect to the Tang and Meyer references. Hence, the combination of Tang, Meyer and Chen does not make obvious claim 14.

Independent claim 36 relates to an apparatus for reducing decoding complexity and includes, among other features, a de-multiplexer communicatively coupled to the first decoder, and a plurality of buffers communicatively coupled to the de-multiplexer. A plurality of

decoders are coupled to the buffers, with each of the plurality of decoders being communicatively coupled to one of the plurality of buffers each being communicatively coupled to form a bit stream. In contrast to the Examiner's assertion, the combination of Tang and Meyer does not disclose such a decoding arrangement. Tang only describes a convolution encoder, while the decoder arrangement of Meyer is shown in Figure 11 and discloses only a single decoder 120. A plurality of decoders, each of the plurality of decoders being communicatively coupled to one of the plurality of buffers, is simply not shown by either reference. Chen was cited by the Examiner for a different reason, and does not disclose a plurality of decoders, with each of the plurality of decoders being communicatively coupled to one of a plurality of buffers. Hence, the combination of Tang, Meyer and Chen do not make obvious independent claim 36.

The claims dependent from independent claims 1, 14, 26, 36 and 41 should also be considered allowable since they further define and limit these independent claims. Reconsideration and withdrawal of the rejection of claims 1-5, 7, 14-18, 20-32, 34, 36-47 and 49-54 based upon the combination of Tang and Meyer are therefore respectfully requested. Similarly, the rejection of claims 24, 36-39, 50 and 53 as being unpatentable over Tang, Meyer and Chen should be reconsidered and withdrawn.

Independent claim 8 has been amended to incorporate the limitations of claim 12. It is respectfully submitted that the Examiner has not made out a prima facie case of obviousness based on a combination of Tang, Meyer and Chen. The amended claim requires providing an indication of an erasure to a second decoder coupled to at least one of the plurality of buffers that would receive the correctly decoded frame if the frame failed to decode correctly. Chen, col. 18, lines 35-51 were cited as showing this feature. While the cited portion does mention erasure, there is no description that an indication of the erasure is provided to a second decoder, much less a second decoder coupled to at least one of a plurality of buffers that would receive the correctly decoded frame if the frame failed to decode correctly. Neither Tang nor Meyer are alleged to show this feature. Accordingly, the rejection of amended claims, and these claims dependent therefrom, should be reconsidered and withdrawn.

Dependent claims 11, 13, 23, 25, 40 and 54 were rejected under 35 U.S.C § 103(a) as being unpatentable over Tang, Meyer, Chen and Naden. Naden does not overcome any of the deficiencies noted with respect to the Tang, Meyer and Chen references with regard to the independent claims. Hence, these claims should be considered allowable over the combination

of references since they further depend from and limit the independent claims discussed above. Withdrawal of the rejection of these claims is respectfully requested.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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